175 individual ends. Their struggles were eclipsed by the Muslim invasions from Mysore which began in 1766, and ended when the East Indian Company took over the area in 1792. But the idea of a United Kerala has not died, and has been repeatedly suggested since India attained [6] Independence in 1947.

161 (3) Population

The Malabar Coast is the most densely populated part of India. The figures for 1931 show a population of 3,533,944 for Malabar; 1,205,016 for Cochin; and 5,095,073 for Travancore. In Malabar the mean density was 610 per square mile; in Cochin, 814; and in Travancore, 668. This includes forest and lagoon areas. The mean density of habitable land in Cochin was 1,400.

[511] Relative to the present exploitation of resources the whole coast is overpopulated. Most of the people lead a hand-to-mouth existence on an income barely sufficient to support life. Want and indebtedness are chronic and there is much unemployment.

Reliable figures are not available for before 1891, but at least since that date and probably for 50 to 100 years previsouly, a great increase has taken place. The figures for 1891 were, for Malabar, 2,557,736; fo Cochin, 722,906; and for Travancore, 2,557,736. This increase in population is part of the baseline from which we must start in analysing kinship systems.

174 631 II The Traditional Political Background

European and Arabic reports on the Nayars

2:Gough E-4, 5 (1947-1949)1961 A W11 Kerala A W11
Central Kerala Nayar

Nayar: Central Kerala

The Nayars, unlike the groups so far described, form only a part-society—a named category of castes within the social system of south-west India. An account of their kinship system therefore requires a sketch of the political and economic system in which they were embedded. It seems to have been the Nayars' role as a specialized occupational group within a complex society which accounted for the most unusual features of their kinship institutions.

The Nayars differ also from the other groups considered with regard to their relatively high level of technological development. At least from the first century A.D., Kerala's social structure was based upon plough agriculture with irrigation, specialized crafts, and overseas trade (K. M. Panikkar, 1945: 36). Productivity was sufficiently high so that more than one-quarter of the population could be exempted from manual labor and set apart as specialist, literate groups engaged in religion, government, warfare, and wholesale trade. The Nayars, as the ruling and military castes, formed the core of this aristocracy and probably comprised between one-quarter and one-fifth of the total population.[1]

Partly as a result of direct legal changes brought about since the British conquest of 1792, and, more deeply, as a result of the change to an industrial fuel technology, the Nayar system of matrilineal groups has been gradually disintegrating over the past hundred years. Some of the traditional functions of these matrilineal units are being taken over by the elementary family and by the wider, personal, bilateral kindred of each individual. Other former functions of matrilineal groups have passed to such modern bureaucratic institutions as government, army, law court, and school. Because this book is a comparative study of matrilineal systems, I shall concentrate on Nayar lineages and kinship in the "traditional" period before the British

[1] Buchanan estimated the population density of Central Kerala at 100 per square mile in 1800 (1807, II: 501). The density for Cochin State was 814 per square mile in 1931 (Census of India, Cochin State, 1931).

E. Gough E-4, 5 (1947-1949)1961 A WII Kerala A WII
Central Kerala Nayar

613 592 174 It seems probable that the property groups of retainer Nayars divided somewhat earlier in their development during the nineteenth century than during the period of native rule. The reason for this is that during British rule Nayar men, having no other compulsory work, considered themselves old enough to become kāranavans by the age of thirty to forty, provided their appropriate elders were dead. In the traditional period, presumably, a man would be in arms until at least the age of fifty and would be unlikely to press for kāranavanship before that age.

613 592 161 174 [175] Further differences in the patterns of division of property groups must have arisen from the marked increase in population during British rule. This is not documented until after the 1870's but from genealogies it appears to have begun between four and five generations ago. The increase would mean that more women, and a higher proportion of women, would have had enough living children to become the founders of discrete lineage segments during their lives or shortly after their deaths. Thus property groups in the nineteenth century would divide not only at an earlier point in their structural development but also more frequently than was the case during native rule.

613 592 174 423 The absolute size of traditional property groups was limited by the amount of land available to each. It can be roughly gauged by the size of the houses they left behind. It seems unlikely that a traditional retainer property group would contain more than twenty-five to thirty people, or fewer than six.

Interpersonal Kinship Relationships

121 I describe the relationships between kinsfolk as these have existed in the recent past in the most "traditional" households, making reference to earlier periods when this is possible.

WOMAN-SON

593 The relationship of mother and son was the strongest in the system in the sense of mutual obligation and the expectation of mutual love. A man should place the needs of his mother above those of all other [858] kin. A woman should show equal concern for her children of both sexes, but it was expected that her primary attachment would be to her sons.

[853] [863] [869] A woman's obligations to both daughters and sons in their early childhood included breast feeding to the age of two or three, care, especially in sickness, and instruction in cleanliness and in the manners and morals of their caste.

3:Gough E-4, 5 (1947-1949)1961 AWll Kerala AWll
North Kerala Nayar

Nayar: North Kerala

The Nayars of North Kerala live between the Chandragiri and the Kora rivers. This area lay north of the Calicut kingdom and had been conquered by the Kolattiri kings at some period before the fourteenth century (Logan, 1951, I: 283; Innes, 1908: 57). It then disintegrated into the small kingdoms of Kolattunad, Kottayam, and Kadattunad. North Kerala was invaded from the Bednur kingdom of South Canara in the 1730's. It was later occupied by Muslim armies from Mysore between 1766 and 1792, after which it passed under British rule (Logan, 1951, I: 360, 399–473). This account deals with conditions before 1760, so far as these are known, and with the major changes of the nineteenth century.

Ecology

The mountains approach nearer to the sea in North Kerala than in Central Kerala. There are fewer stretches of lowland suitable for wet-rice cultivation, and gardens of fruits, nuts, vegetables, and spices on hillsides are more extensive. Since rice was the main subsistence crop, population density was lower than in Central Kerala. The houses of a village (*dēsam*) were scattered in gardens on hillsides surrounding a wet-rice flat in a valley. Villages were often separated by three to six miles of uncultivated scrub or jungle. Until the Mysoreans built roads after the 1760's, transport and communication by narrow mountain paths were difficult, especially in the heavy monsoons.

North Kerala had four major ports during the period of European trade—Cannanore, Tellicherry, Mahé, and Badagara (Hamilton, ed. 1727: 369–371). Pepper and other spices were exported from inland villages probably from Roman times, but villages were virtually self-sufficient for food until the mid-eighteenth century. After that time the Mysoreans' roads permitted greater import of goods both from the coast and from Mysore, and greater spatial mobility. In the nineteenth century cash-crop farming for export increased, as did imports of

3:Gough E-4, 5 (1947-1949)1961 AWll Kerala AWll
North Kerala Nayar

439 food and other goods. The population expanded and much formerly
[161] waste land was brought under cultivation as gardens for the production of coconuts, pepper, cashew nuts, and cinnamon. Higher in the
[241] mountains Europeans developed estates of tea, coffee, and spices,
[464] which attracted wage labor from villages to the west. The development of the steamship, the opening of the Suez Canal in 1869, and
[496] the entry of railways into Kerala in the 1860's were significant events in this process.

Political and Economic Systems

564
[566] Traditionally, a hierarchy of the major Hindu castes was present as in Central Kerala, except that large areas of North Kerala had no Pulayas or agricultural serfs (*ibid.*, I: 148). Nambudiri Brahmans were fewer than in Central Kerala, but they controlled a small number of temple estates and claimed religious superiority over the Nayar
439 rulers. Muslims were the dominant trading population of the ports
563 and inland trading centers.

631 The mountainous terrain, heavy rainfall, poor communications, sparse population, and comparatively low productivity made political centralization more difficult than in Central Kerala. The ancient Kolattiri kingdom was divided into chiefdoms and villages in a manner similar to the later kingdom of the Zamorin, but judicial control was perhaps never as well centralized as in the Calicut kingdom.
175 From the fourteenth century, when the Zamorins captured most of
635 the Arab trade, the Kolattiri kingship lost some of its former power.
[634] The kingdom disintegrated into three smaller, virtually independent kingdoms—Kolattunad, Kottayam, and Kadattunad—plus a number of small border chiefdoms of uncertain allegiance (*ibid.*, I: 343–344).
174 Each of the three North Kerala kingdoms probably had a population
161 of between 150,000 and 250,000, in contrast to the Calicut kingdom,
635 which seems to have numbered some 600,000 to 720,000 (see note 5, page 473).

175 After 1500 each of the North Kerala rulers sought the help of one
648 or another of the mutually hostile European and Middle Eastern trad-
634 ing powers, thus maintaining a state of fragmentation until the My-
635 sorean conquest. In the struggles of the seventeenth and eighteenth centuries some new Nayar chiefs also arose with mushroom rapidity on the basis of European support and gained partially autonomous sway over small groups of villages. Political and social mobility among Nayar aristocrats was thus more marked in North Kerala than in the more stable central kingdoms. Indeed, a North Kerala proverb re-

3:Gough E-4, 5 (1947-1949)1961 AWII Kerala AWII
North Kerala Nayar

591 matrilocally in a home with the wife's mother and sometimes with
178 others of her older matrilineal kin. Twenty-six couples (49 per cent)
592 lived neolocally in a house provided by the husband and containing no natal kin of either husband or wife. Of these 26 neolocally resident couples, 6 (11 per cent) lived in a house which the husband had inherited from his dead father; 3 (6 per cent of the total) lived in a house which the husband had obtained from his taravād; 14 (26 per cent) lived in a house newly built by the husband for his wife.

594 These figures may be contrasted with the modern picture in a
613 Central Kerala village, where the marketability of land and labor
178 have also brought about a partial disintegration of matrilineal descent groups and an emergence of the elementary family as a residential and economic unit. Both in Central and in North Kerala, moreover,
595 marriage has been compulsorily monogamous since the 1930's, men
656 have been legally obliged to maintain their wives and children, and
178 the whole of man's private intestate property has passed to his mother,
428 wife, and children at his death (Madras *Marumakkattāyam* Act, 1933; Cochin Nayar Act, 1938; Nair, 1941: 306). In addition, it has now be-
421 come legally possible for the members of a taravād to divide their
613 matrilineal ancestral property on a per capita basis. Once the ancestral property has been divided into individual shares in this way
178 it becomes private property in law and is heritable in the same manner as are self-acquisitions. Both in Central and North Kerala, therefore, economic change and resultant modern laws have combined to break down traditional matrilineal descent groups.

425 In Central Kerala, however, population is denser and there has
178 been less waste land available for individual cultivation. Over the
464 past hundred years, therefore, when individual men have acquired private plots, it has more often been through purchase of already
[160] cultivated land than through cultivation of virgin land. Further,
[701] Nayar men in Central Kerala, having been a professional militia, tended after the disbanding of their armies either to remain non-cultivating owners and tenants or where possible to move into new forms of salaried employment. Central Kerala today is more urbanized than is North Kerala, so that a much greater proportion of Nayars have salaried work in factories, as clerks, as government servants, as schoolteachers, or in the armed services. Many are unemployed and merely live from their ancestral lands. Particularly among retainer Nayars, who are relatively poor, men have amassed less self-acquired
423 land than was possible for Nayar cultivators in North Kerala. More-
178 over, because Nayar men are often not themselves the cultivators of

8:Panikkar I-4, 5 (no date) 1918 AWII Kerala AWII
Nayar

101 is from the Sanskrit work *Nayaka*, meaning leader. As such a derivation flatters the national vanity of the community it has been accepted without question. The utter absurdity of the idea that the people who call themselves Aryans (as the Brahmins of Malabar still do) and look down upon the rest from a point of view of racial superiority, can have given them this proud title, never seems to have suggested itself. Moreover, the Aryan settlers of Malabar asserted a spiritual as well as temporal superiority over the Nāyars, which goes far to disprove the theory of the derivation of the word from *Nayaka*, or Lord.

101 614 174 825 771 It seems unquestionable, on the other hand, that the word *Nāyar* is the same as *Nagar*. As the totem names seem to have been imposed on the community from outside it seems reasonable to suppose that this serpent-worshipping people were called by their neighbours *Nagar* or serpent-men. That the Nāyars in ancient days were a totemic clan, is easy to see from the fact that every Nāyar family still holds the serpent sacred. Thus it will not cut down a *Kavu*, or serpent-grove, as it is the place where the family serpents reside. It is, of course, natural that in a [161] community of 3½ million souls the same solidarity of totemic feeling, as it exists, say, among the turtle clan, cannot have existed.

M. S. Reinach, in defining totemism as distinct from fetishism, says that the totem is a class of objects regarded by a tribe or clan as tutelary or protective in the widest sense of the word. Take the case of a clan with a serpent totem; the members will call themselves serpents, claim descent from a serpent, abstain from killing serpents, etc. Not only do the Nāyars still show traces of having done all this, but they continue to perform with undiminished zeal *Nagathān* (*thān* is an honorific suffix) *pattus*, or prayers and songs, to the sacred serpents. When anything goes wrong the astrologer generally finds something done to offend the sacred ser- [784] pents. There is one singular case where a man, without heeding the warnings of all his people, went and cleared a serpent grove, and the result was that he died six days later. In popular opinion, this was without doubt due to the wrath of the serpents.

101 174 From all this it seems quite clear that before the Aryan invasion the Nāyars were a community with a *Naga* or serpent totem. This is supported by evidence from Ceylon also. Ceylon chronicles mention that when the Buddha visited the island for the second time (second century B.C.) he found the northern part peopled by Nagas who were fighting with the Yakshas, or the original inhabitants of the land.[1] This is without doubt an emigration of S. Indian people to Ceylon, probably as a result of Aryan pressure from the North. The descendants of these Nagas of Ceylon, it must be noticed, bear a close similarity to the Nāyars in matters of social life. Among their customs may be specially noticed: (*a*) the elasticity or rather the slenderness of the marriage tie which permits the discarding, without any disgrace attached to it, of undesirable husbands or wives; (*b*) the remarriage of such widows

[1] See Parker, *Ancient Ceylon*. London, 1909, p. 16.

9:Iyer E-4, 5 (ca. 1902-1906) 1912
AWll Kerala AWll
Nayar

Thus did the Nayars as a warlike race play a very important part in the history of *Kerala* during the middle ages. Their weapons and modes of fighting thereafter underwent many changes under the influence of the Portuguese and the Dutch, who introduced western arms and tactics into the then existing art of war, when also the Nayars proved equal to the occasion. Labourdanais, who distinguished himself in the storming of the little town of Mahe, bore the brunt of many a Nayar onslaught, and had therefore opportunities of forming a just estimate of their work. Major Munro, who was instrumental in the storming of that little town in 1761, met the Nayar troops in the field, and thus described their mode of fighting: "One may as well look for the needle in a bottle of hay as any of them in the day-time, they lurking behind the sand-banks and bushes, except when we are marching towards the fort, when they appear like bees out in the month of June besides which they point their guns well and fire them also." Dr. Buchanan, who under the orders of Lord Wellesley journeyed through Mysore, Malabar and Canara, spoke of them in the same strain. When Hyder Ali invaded Malabar, they committed terrible havoc on the Mysoreans. "The Nayars are the military class of Malabar," writes Col. Wilkes, who was struck with their pluck and agility. "They are perhaps not exceeded by any nation on earth in their high spirit of independence, but like all persons stimulated by that spirit without the direction of discipline, their efforts are uncertain, capricious and desultory." The last event in which they showed their military valour was in the rebellion of the Pychee Raja of Kurumbranad. With the fall of the Portuguese and the Dutch, and the conquest and annexation of Malabar by the English East India Company, the Nayars have almost lost their warlike characteristics, through successive generations of peace and have now become attached to the land. Even writing in 1855, Captain Drury contrasts the Nayar's effeminate disposition with the martial valour of his forefathers. He does not bear transplantation. He now prefers a quiet swing in the verandah or a lounge under a tree, chewing betel. Unlike his ancestor, he is becoming more and more domesticated. The Nayar population has greatly increased and a large majority of them are not very affluent; and among these physical deterioration is noticeable.

11: India G-4, 5 (1960-1961) 1962 AW11 Kerala AW11

Preface

THE TECHNO-ECONOMIC Survey of Kerala, conducted at the request of the State Government of Kerala, is one of the last few in the series of Techno-Economic Surveys of the various States of India undertaken by the National Council of Applied Economic Research. For some time past this small State has been attracting increasing attention of the public. Although Kerala has come into limelight on account of its political turmoils, the basic problems which the State faces are primarily economic in nature. The acute intensity of its unemployment aggravated by increased population pressure, the relatively lower per capita income of the people of the State, and highly limited scope for extension of cultivable area, pose a challenging task for the economic planners.

The main objective of the Techno-Economic Survey of Kerala, as in the case of similar surveys for other States, has been to assess technically feasible and economically viable potential for growth in the different sectors of the State economy over the coming decade. The first step towards this objective was to prepare an outline of the present structure of the economy and make an assessment of the existing physical and human resources of the State. A team of economists and technical experts was constituted for this purpose. The preliminary work on the project was started early in 1960. Relevant data were collected and the members of the survey team discussed the problems and potentialities in different fields, with a number of knowledgeable persons in the State. A number of working papers dealing with problems and potentialities in respect of various aspects of the economy were also prepared. Technical Appraisal Reports analysing growth potential in different sectors were then prepared by the technical members of the team.

The Preliminary Economic Report was ready by September 1961 and it was sent to the State Government for comments. The final report as printed here brings together the material contained in the working papers and the Appraisal Reports. The Appraisal Reports contain a detailed technical analysis of each of the major fields of development, e.g., Industry, Power, Transport, etc. The Economic Report, on the other hand, aims at presenting a broad and coordinated picture of the outline of the probable growth of the State Economy. It indicates the main lines along which future development of the State should proceed and highlights the strategy required for achieving a rapid growth of the State economy.

The economy of Kerala is marked by a number of distinctive features. It is the most thickly populated State in India with an average density per square mile being over three times the all-India average. In addition, the rate of growth of population has been noticeably higher in Kerala than in the other parts of India. A high density of population combined with a fast growth of population has been responsible

(vi)

161 for the most acute problem of Kerala, viz., abnormally high rate of unemployment.
414 According to a survey carried out by the State Statistics Department open unemployment in the State was as high as 4.2 per cent (all-India 0.6%) and under-employment 9.6 per cent of the total population (all-India 6.0%).

464 The unemployment problem of Kerala might not have been so severe had there
* 433 been a correspondingly rapid development of industries over the past few decades.
49 In this sphere the State suffers from certain handicaps. Although the industrial sector in Kerala absorbs a high proportion of the working force (Kerala 19.1%; India 9.4%), the majority of them are engaged in very low productivity industries. The two major industries of Kerala, viz., coir and cashewnut are technologically very backward. Coir industry, which is organized as a cottage industry, absorbs 4-5 lakh persons. Cashewnut-processing, although organized on the lines of factory industry, is almost entirely unmechanized. As a result, labour productivity in the secondary sector is extremely low. Because of this, industrial sector in Kerala does not create any sizeable reinvestible surplus and the process of capital formation is hampered. The types of industries in which Kerala predominates, have not also aided the development of entrepreneurial talents. Kerala lacks in a long tradition of industrial enterprise. Most of the large scale industries which now exist in Kerala, for example, Fertilizers & Chemicals Travancore Ltd., Travancore-Cochin Chemicals Ltd., Indian Aluminium Company and Aluminium Industries Ltd., were started under the direct initiative of the governments of the erstwhile States of Travancore and Cochin or industrialists from other neighbouring States of India. No distinct body of local entrepreneurship has, therefore, developed in the State.

135 In addition, lack of sizable mineral deposits (except Ilmenite) adds to the
438 difficulties which have been retarding industrial development of the State. Coal
* 433 as well as all metallic raw materials for the industries of Kerala have to be transported over long distances from other parts of the country. But there are favourable factors compensating some of these deficiencies in the economic endowments of the
241 State. The agricultural sector of Kerala abounds in a rich variety of high value
434 yielding cash crops like coconut, pepper, rubber, arecanut, tea, cashewnut, cardamom
439 and coffee. These crops not only provide considerable incomes for the farmers, but are a good source of foreign exchange earnings and provide valuable raw materials
* 433 for the industries. A vast potential for generation of low-cost hydro-electric power makes up for the absence of fossil fuels. Rich forest and fishery resources, a highly intelligent and literate labour force, easy accessibility to most parts of the State through a wide network of roadways, and the scenic beauty of its landscape capable of attracting tourists, are some of the other assets of Kerala.

* 433 As a result of the present survey, several lines of technically and economically
434 feasible developments have been suggested in this report in the industrial and other fields. The total impact of these developments would be to raise the per capita income of the State from the present level of Rs. 240 (at 1955-56 prices) to Rs. 404 (at the same price level) by 1970-71. State income would rise from Rs. 400 crores (at 1955-56 prices) to Rs. 812.8 crores, i.e., at an average annual rate of 10.3 per cent. The targets are undoubtedly on the high side, but the needs of Kerala in the context of its huge unemployment and very low per capita income demand a rather high

11: India G-4, 5 (1960-1961) 1962 AWll Kerala AWll

would still leave a backlog of about 4.7 lakhs unemployed persons in 1970-71. However, the proportion of unemployed persons to the total population would have been reduced from 4.2 per cent to 2.3 per cent.

It may thus be seen that in spite of certain optimistic assumption regarding creation of employment opportunities and a reduction in the intensity of unemployment, the number of unemployed persons by 1970-71 would be large for a State like Kerala. In the long run an effective solution to the over-population of Kerala can only be provided by a reduction in the rate of population growth through intensification of Family Planning Programmes and migration to other parts of India. The need for widespread use of family planning methods and measures to promote migration, is all the more urgent in a region like Kerala where population density is high, rate of growth of population is rapid, and an acute unemployment problem exists. More reliance on measures to create additional employment opportunities within the State is not enough.

This survey like other similar surveys was undertaken by a team of National Council economists and technicians headed initially by Dr. B. Natarajan and later by myself with the assistance specially of Mr. A.K. Mathur and Mr. S.R. Bose both of whom spent considerable time in the State. At the specific request of the Government of Kerala, the Director-General directed the enquiry in all its stages and visited the State on a number of occasions and guided the team. The names of persons who participated in the survey are listed in appendix 1. To all of them, specially to Mr. Mathur on whom the task of drafting the preliminary report fell, I wish to express my thanks. I would also like to acknowledge the help and cooperation received from the Government and the officers of the Kerala Government, specially the Director of Industries in the various stages of the survey. Finally, to the Minister for Industry, Mr. K.A. Damodara Menon I am specially indebted for his continuous interest in the survey and for the support and encouragement he gave to our staff.

P.S. LOKANATHAN
Director General

NEW DELHI

July 1962

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182 1.13 These, broadly, are the inter-relationship between physical features and economic aspects of the State, and largely determine the nature and structure of the Kerala economy discussed below.

Density of Population

161 [164] 1.14 In the ultimate analysis, the basic problem of Kerala, viz., an inordinately large section of the population being without any gainful work, is brought about by the very high density of population in the State. With an area only 1.2 per cent of the whole of India, Kerala has to support 3.8 per cent (16.8 million) of the total population of India. The density of population in Kerala (1,125 persons per sq. mile) is naturally over three times the all-India average (384 persons per sq. mile).

1.15 The population, however, is not evenly spread out over the whole of the State, but shows considerable variations from district to district (Table 2).* The highland, being mostly covered with forests, is sparsely populated. The average density here is only about 150 persons per square mile. On the other hand, the lowlands bear the severest burden of population. With only about 18 per cent of the State area, they support over 40 per cent of the population. On the other extreme is the coastal strip where the average density is over 2,500 persons per square mile. In certain pockets it even shoots up to 7,000 persons per square mile. The midland, though thickly populated, is not as congested as the area lying in the immediate vicinity of the sea coast.

Growth of Population

1.16 Not only is the density of population high in Kerala, but its rate of growth has also been fairly high. The following table gives the rate of growth of population over the last half century both for India as well as for Kerala.

DECENNIAL PERCENTAGE VARIATION IN POPULATION

Year	*India*	*Kerala*
1901-11	5.69	1.75
1911-21	—0.31	9.16
1921-31	11.00	21.85
1931-41	14.23	16.04
1941-51	13.34	22.82
1951-61	21.49	24.55

Source: 1961 Census of Population Provisional Figures.

165 163 1.17 As can be seen, the population has grown much faster in Kerala than in the country as a whole during the last six decades. The basic reason for a faster rate of growth of population in Kerala is a comparatively low death rate while the birth rate is only slightly less than the all-India one. The comparative position of birth and death rates in India and Kerala is given in the following table.

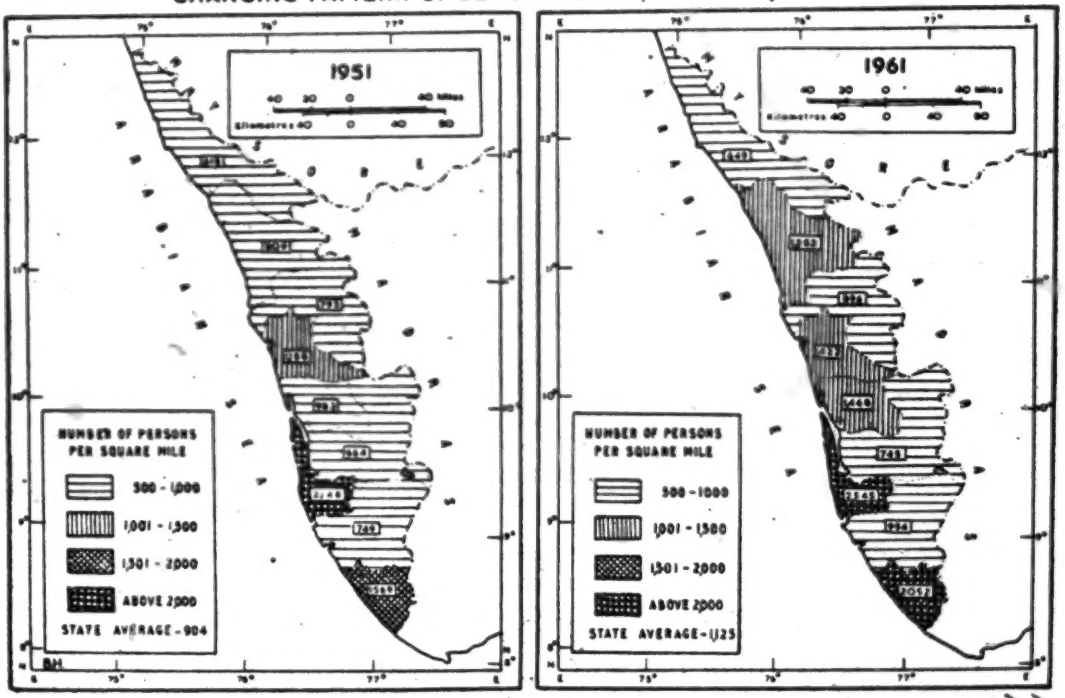
* [see p. 270, category 116 -- Analyst]

[text continues on p. 8]

[P.7]

KERALA

CHANGING PATTERN OF DENSITY OF POPULATION, 1951-1961



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11: India G-4, 5 (1960-1961) 1962 AWll Kerala AWll

survey carried out in Kerala on the eve of the Second Plan period. According to this survey, 6.3 lakh persons, that is, 4.2 per cent of the total population were openly unemployed while another 15.2 lakhs (5.2% of the population) were under-employed. This is, indeed, a very high degree of unemployment when compared with the corresponding all-India proportion of 0.58 per cent for the openly unemployed and 6 per cent for the under-employed.

1.58 There is some evidence to show that the level of unemployment has been rising steeply over the past few decades. Between the Census of 1931 and that of 1951 the participation rate slumped down from 48 per cent to 36.1 per cent. Although the difference in concepts used in the two Census operations exaggerates the extent of decline, it does convey some idea of the fast deterioration in the unemployment situation over the years.

1.59 Unemployment on this scale is the outcome of a high rate of population growth, unaccompanied by economic growth at a correspondingly fast rate. In spite of a large section of the population being engaged in non-agricultural activities, the rate of expansion of employment opportunities in this sector has been very low, and the pressure on agricultural sector has been constantly increasing. In the 20 years, between 1931 and 1951, according to the Census data, the proportion of population dependent upon agriculture increased from 34.2 per cent to 53.8 per cent.

1.60 The approach to the problem of unemployment has got to be two-sided. Measures to curb the rate of growth of population form one aspect of the solution. The second and the more important weapon is to accelerate the pace of industrial development so as to diversify the pattern of growth and, thus, reduce an excessive dependence on the agricultural sector. It is with this aim in view that the following chapters attempt to assess the resources available and to explore the development possibilities in each sector of the economy during the coming decade.

SOME RECENT TRENDS

1.61 Planned economic development, as in the rest of the country, was initiated in the State during the early years of the last decade. The First Plan of the State covered only the Travancore-Cochin region since Malabar was merged to from Kerala only after the end of the First Plan. The outlay for the First Plan was Rs. 30.03 crores. On a per capita basis the public sector outlay during the First Plan came to Rs. 32.2 per head (all-India Rs. 55). During the Second Plan, the reorganized State was allotted Rs. 87 crores. The total outlay came to about Rs. 97 crores if Central investment in the State be also included. On per capita basis, again, public sector outlay in Kerala was considerably behind the all-India figure (Kerala: Rs. 64 per head; all-India: Rs. 118).

1.62 Year to year estimates of growth of the State Income are not available for the last decade. This lacuna makes it difficult to assess the overall impact of the Plans on the whole economy. However, a very rough estimate has been made for growth of the State Income between 1956 and 1961 and the estimates are given in the following table.

Chapter 2

Agriculture and Plantation Crops

DISTINCTIVE FEATURES OF AGRICULTURAL SECTOR

A NUMBER OF distinctive features are characteristic of the agricultural sector of Kerala. In the first place, Kerala surpasses all other regions of India in respect of the high pressure of population on land. Secondly, on account of the large number of valuable cash crops, the agricultural sector is more commercialized in the State than elsewhere. Thirdly, food production has always been far short of Kerala's requirements.

2.2 With the fast rising density of population, the margin of cultivation has been constantly receding. The proportion of net sown area to total geographical area is consequently much higher in Kerala (47.16%) than in the rest of India (all-India: 39.1%). The average size of land-holdings, however, is much smaller (1.5 acres) in Kerala (all-India: 7.5 acres). In the Travancore-Cochin area, 66 per cent of the holdings are below one acre in size. (Table 7)[2]

2.3 The scarcity of land in relation to population has been responsible for an acute state of unemployment and under-employment among the people in the rural areas. Unemployment is about three to four times higher in Kerala than in the rest of India. The acute state of unemployment is also accounted for by Kerala's cropping pattern which is comparatively less labour absorbing than in many other parts of India. The perennial crops which take up 47 per cent of the cultivated area need labour recurrently only for maintenance and harvesting[1] although crops like tea and rubber require human labour on a large scale for picking of the green leaves and tapping of rubber. The perennial crops require very little labour for basic operations such as preparation of seed bed, sowing, etc., except once in their life time.

2.4 However, the fact that the cropping pattern of Kerala is not labour-intensive is compensated to some extent by the higher value yield of the perennial crops per cultivated acre. The soil structure and climatic conditions in Kerala favour a high value yielding cropping pattern. On an average, cash crops contribute Rs. 100 crores (65%) to the income from agriculture (Rs. 151 crores). Of the cash crops, coconuts occupy 20.2 per cent of gross cropped area, standing next only to paddy which occupies 35.8 per cent of the gross cropped area. But the value yielded per acre for coconuts (Rs. 446) is more than twice that for paddy (Rs. 212). The position regarding the other crops is given in Table 9.[3]

2.5 In respect of plantation crops the only other State which approaches closest to Kerala is Assam where the proportion of cultivable area devoted to plantation

[1] This aspect is discussed in greater detail in the Chapter on Manpower No. 11.

[2] [see p. 273, cat. 116 -- Analyst]

[3] [see p. 275, cat. 116 -- Analyst]

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INVESTMENT ESTIMATES

3.36 It is not possible to give the exact extent of investment that would be needed to implement the measures suggested here as the major part of investment would be in the nature of improvement in the rearing conditions, erection of broods, purchase of livestock, poultry, etc., which have to be undertaken by individual farmers themselves. The public sector component of total investment for the programmes suggested in the above pages comes to Rs. 2.7 crores. The major schemes for improvement of cattle, etc., and the likely public sector investment on these is given below:

	Rs. lakhs
Breeding programme	6.76
Veterinary aid	77.90
Poultry Extension Centres	35.75
Dairies (milk-processing units)	145.00
Egg powder factory	3.00
TOTAL	267.81

3.37 Assuming roughly that the proportion between private and public sector investment in the sphere of animal husbandry is the same as in the agricultural sector, private investment by farmers for improvement of livestock and poultry may be taken to be Rs. 3.5 crores. On this basis total investment, therefore, would add up to Rs. 6 crores during the coming decade.

3.38 As a result of the above schemes, it is estimated that milk production e ll go up by approximately 50 per cent while egg production may even double its l f. Output of milk may, therefore, be expected to be 2·73 lakh tons and that of eggs 400 million by 1970-71. NCAER's population projections estimate the population of Kerala in 1970-71 to be 20.12 million. Consumption of milk by the end of the Fourth Plan is, therefore, likely to be about 2 ozs. per head, if the above measures are effectively implemented.

[Text continues on p. 67]

Chapter 11

Manpower and Employment

PART I: MANPOWER

ONE OF THE chief problems of Kerala today is the vast unemployed section of its manpower. An appraisal of the analysis of employment prospects, therefore, becomes very important. The extent of urbanization, sex distribution, the size of the labour force, its rate of participation, and occupational distribution—all these are, therefore, studied in detail in what follows.

Urbanization

11.2 Progress in urbanization in Kerala is less as compared to the country as a whole. Of the total population of Kerala, 13.5 per cent live in urban areas against 17.38 per cent for the whole of India according to the Census of 1951. The degree of urbanization has been progressively increasing over the past few decades. This is shown by the table below which gives the relative rates of growth of the urban and rural population during the period 1921–51. As may be seen, urban population has been growing at a faster rate than the rural population.

MEAN DECENNIAL GROWTH RATE OF POPULATION

(Per Cent)

	1921–30	*1931–40*	*1941–50*
Urban	27.18	23.26	29.38
Rural	22.85	16.53	20.12
TOTAL	*23.31*	*17.27*	*21.22*

N.B.: It may be noted that these figures pertain only to the old Travancore-Cochin State.

SOURCE: *Census of India*, Volume XIII, Travancore-Cochin (Part I, Subsidiary Table).

11.3 During the last decade, that is, 1951–61, urbanization seems to have increased at a somewhat faster rate than in the whole of India. The proportion of population living in urban areas of Kerala grew from 13.05 per cent in 1951 to 15.03 per cent in 1961, whereas in the case of all-India the proportion registered an increase from 17.38 per cent to only 17.84 per cent.[1] In view of the plans for a faster growth of industries,

[1] As pointed out in Chapter 1, too much reliance should not be placed on a comparison of urbanization between 1951 and 1961 since the definition of urban areas during the two Census operations has not been the same.

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the trend towards a high rate of urbanization may be expected to continue during the coming decade.

Sex Distribution

11.4 One of the interesting demographic features of Kerala is its sex distribution which shows an excess of females. Out of a total population of 16.88 million[1] in 1961, females (8.53 million) outnumbered the males (8.35 million) by 0.18 million giving a sex ratio of 1,022 females to a thousand males (all-India: 940 females to 1,000 males). The proportion of females in the population had been rising successively over the past few decades till 1951, but during the past decade it has shown a slight tendency to fall as shown by the following table:

SEX RATIO (KERALA STATE)

Year	*Female per 1,000 males*
1901	1,004
1911	1,008
1921	1,011
1931	1,022
1941	1,027
1951	1,028
1961	1,022

11.5 The excess of females is especially marked in the working age groups. Whereas in the age group 0-15 years males exceeded females in the ratio 100: 97.7, in the age group 15-55 years the position was reverse, there being 100 males to 106.5 females. (1951 Census)

11.6 The pattern of sex distribution in the rural and urban areas is broadly similar to that in the rest of India. Females are generally found to be more predominant in the rural areas. In Kerala this contrast is quite marked as can be seen from the fact that rural sex ratio is 1,034 to a 1,000 males against the urban ratio of 990 to 1,000. The cause of this rural-urban difference is rooted in the sociological factors, the most important of which is that the males generally come over to the towns for earning their livelihood, leaving behind other members of the family in the villages.

Age Structure

11.7 Age structure is an important determinant of the proportion of economically active persons in the population. An economy with a high proportion of older people is necessarily less dynamic than an economy with a large element of younger blood. Table 56[2] gives a comparative picture of the age structure of the population in Kerala and in India, according to the Census of 1951.

[1] *1961 Census* (Provisional Population figures).

[2] [Table 56, appearing on p.309 of the text, has not been processed -- Analyst]

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India urban participation rate, in case of rural participation rate, the difference is almost 8 per cent.

11.12 As a general rule the difference between rural and urban participation rates is about 6 to 7 per cent. In Kerala, however, this difference narrows down to 1.3 per cent. This is primarily due to an abnormally low rural participation rate, the causes for which are analyzed below.

11.13 It was mentioned earlier that the population of Kerala has a very high proportion of females and that this is particularly marked in the working age group. Since the proportion of females taking part in economic activity is generally less than that of males, this difference being particularly marked in Kerala (Table 57), it naturally tends to pull down the participation rates.

11.14 The participation rate in the lower ranges of age is very much influenced by the proportion of school-going children. It is well known that the standards of primary education in Kerala are the highest in the whole of India. About 18 per cent of population attends schools and colleges against only 8.31 per cent in the whole of India. This is an important factor in reducing the rural participation rate.

11.15 The size of working force is also a function of the opportunities available for work. The agricultural sector of Kerala is highly over-populated, the size of average holdings being only 1.5 acres (all-India 7.5 acres). Moreover, due to the predominance of perennial crops, cropping pattern in Kerala is much less labour-intensive than in the other parts of India.[1] That the agricultural sector of Kerala is comparatively less labour-absorbing is confirmed by the very low participation rate in the agricultural sector of Kerala in comparison to the non-agricultural sector. (Table 57). These are some of the factors limiting the scope for gainful employment in the rural areas.

Past Trend

11.16 The table below gives an indication of the trend of the general participation rate as indicated from the last three Census operations:

TREND IN PARTICIPATION RATE—1931, 1941 AND 1951

	Population Density	*Participation Rate*[a] (In per cent)	*Total Population* (In lakhs)
1931	634	48.0	95.2
1941	737	36.6	110.37
1951	905	36.1	135.6

[a]These figures have to be used with reservations since the concepts in successive Censuses were different. However, suitable modifications have been made to make them broadly comparable.

N.B.: Population density and population figures are for Kerala, while participation rate figures are only for Travancore-Cochin.

[1] Chapter on Agriculture and Plantations.

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The fall in the participation ratio between 1931–51[1] may be attributed to three factors:

(i) Rise in the sex ratio in favour of females.
(ii) Increase in the school-going population.
(iii) Slow growth in employment opportunities.

11.17 The force of the first two factors, however, is not sufficient to explain the steep decline in the participation rate. A fall of the magnitude, as shown in the above table, primarily indicates that the increase in opportunities for gainful employment has not been keeping pace with the growth of population which had increased by over 40 per cent between 1931 and 1951 without any corresponding growth of industries or development in other sectors.

REGIONAL VARIATIONS IN POPULATION DENSITY AND MANPOWER

11.18 Kerala is the most thickly populated State of India having an average density of 1,125 persons to a square mile according to the Census of 1961. The population, however, is not uniformly spread out as may be noticed from the district density figures in Table 58.[2] Malabar is less thickly populated than the Travancore-Cochin area. But the proportion of working force to total population, that is, the participation rate is also lower in the Malabar area. Generally, it is expected that participation rate would be lower in the more congested areas, because an over-crowded agricultural sector naturally offers limited scope for employment. The comparison of Travancore-Cochin and Malabar, however, seems to belie this conclusion. The reason for this contrast perhaps lies in the fact that the major part of the coir industry, the most labour-intensive industry of Kerala, is concentrated mostly in the Travancore-Cochin region.[3] Absence of this industry on a large scale in Malabar seems to account for a lower participation rate in that area.

Occupational Distribution

11.19 Occupational pattern generally gives a broad idea as to the stage of economic development attained by a country or a region. The distribution of working force between agricultural and non-agricultural sectors, is given separately for the rural and urban sectors, in Table 59.[2] A comparison with the all-India occupational distribution brings out a marked contrast in the case of Kerala. Whereas 71.8 per cent of the working force was engaged in agricultural occupations in the whole of India, in case of Kerala the proportion was only 51.4 per cent. In fact in Kerala the proportion of its population dependent upon non-agricultural activities turns out to be the highest in the whole of India.

[1] The difference in the concepts used in 1931 and 1951 Censuses perhaps exaggerates the extent of decline in the participation rates, but it does convey some idea of the fast deterioration in the unemployment situation over the years.

[2] Both these aspects have also been dealt with in Chapter 1.

3, 4 [see p. 310, category 116 -- Analysis]

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Supply of Labour

11.36 In addition to the current back-log of unemployment, the two sources of future labour supply would be : (*i*) growth of population, (*ii*) changes in labour force population ratio. Of these, by far the most important source will be the growth of population. Long run changes in the labour force population ratio are difficult to predict. For the comparatively short period of next 10 years, this ratio may be assumed to remain constant at about 37.9 per cent or so.

11.37 A look at the population figures in Kerala over the last few decades shows that this State has witnessed a higher rate of growth of population than India as a whole and that during 1941–51 it was higher (22.82%) than in any other State.[1] There are indications to believe that the rate of growth of population during the coming decade may not be so fast. The following table gives the projections for growth of population[2] and the labour force arising out of it during the period 1956–71.

GROWTH OF POPULATION—PROJECTIONS FOR 1956—71

Year	*Population* (million)	*Increase in Population over the previous five years* (million)	*Increase in the labour force* (*Labour force population Ratio = 37.9 per cent*) (million)
1956	15.01	..	..
1961	16.68	1.67	.633
1966	18.34	1.66	.629
1971	20.12	1.78	.674
			1.936
Backlog of unemployment in 1956			.660
			2.596
Less jobs created during the Second Plan			.200*
Additional labour supply during 1961–71			2.396

* *Employment Trends and Prospects*—Planning Commission. Approximate estimates of employment created during the Second Plan may also be derived from investment figures. On this basis we get a smaller figure for employment generated during the Second Plan period. Public sector investment during the Second Plan was about Rs. 75 crores. Adding 50 per cent for private investment the total comes to Rs. 112.5 crores. Assuming that an investment of roughly Rs. 8,000 is required to create an additional job, the number of jobs created during the Second Plan comes to about 1.4 lakhs.

11.38 The above figures may be taken to be only rough approximations, since the projections of population and labour force ratios are based on certain assumptions. However, the magnitude of the problem is well illustrated by the fact that during the coming decade an additional 23.96 lakh jobs will have to be created if something approaching the standards of full employment has to be achieved. This figure is almost 50 per cent of the existing working force.

[1] *1961 Census*—Provisional Population figures.

[2] Based on NCAER population projections. It may be noted that the NCAER projections would have to be slightly modified in the light of the 1961 Census data. However, the extent of difference would not be so large as to make any substantial difference to our calculations.

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634

TABLE 2

DENSITY OF POPULATION IN KERALA

District	*Population*	*Density per sq. mile*
Trivandrum	1,738,085	2,052
Quilon	1,929,845	994
Alleppey	1,809,330	2,545
Kottayam	1,730,436	745
Ernakulam	1,858,440	1,468
Trichur	1,634,251	1,422
Palghat	1,775,477	896
Kozhikode	2,619,285	1,283
Cannanore	1,779,852	649
KERALA	*16,875,199*	*1,188*

SOURCE: 1961 Census Provisional Population figures.

TABLE 3

ESTIMATE OF STATE INCOME OF KERALA (1955-56)
(At current prices)

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	Kerala		*India*	
	Rs. crores	*Per cent*	*Rs. crores*	*Per cent*
A. Primary Incomes	*172.5*	*49.1*	*4,520.0*	*45.6*
1. Agriculture	151.5	43.1	4,300.0	44.9
2. Animal Husbandry	10.7	3.0		
3. Forestry	5.0	1.4	70.0	
4. Fisheries	5.5	1.6	60.0	0.5
B. Secondary Incomes	*52.3*	*14.8*	*1,180.0*	*11.8*
1. Factory enterprises	18.0	4.8	780.0	7.8
2. Non-factory enterprises	32.3	9.6	970.0	9.7
3. Mining	2.0	0.6	100.0	1.0
C. Tertiary Incomes	*129.8*	*36.3*	*3,810.0*	*38.8*
1. Communications	3.5			
2. Railways	55.9			
3. Other Transport and Commerce	3.5			
4. Organized Banks and Insurance	31.3			
5. Professions, Arts and Domestic Services	14.6			
6. Public Authorities	18.0			
7. House Property				
TOTAL	*351.6*	*100*	*9,910*	*100*
Population (millions)	15.01		383.0	
Per Capita Income	234.4		261.0	

[Pp. 216–269 have not been processed]

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[p 159]
[PP. 1-158 not Processed]

CHAPTER 2

THE POLYANDRY OF THE THANDANS (TIYAS), KAMMALANS, AND OTHER ARTISAN CASTES OF KERALA

Anthropological research in Kerala is not, and never has been, easy. Human society there, as we shall see from what follows, is extremely complex, being made up of innumerable Hindu castes, sub-castes and outcastes, to which must be added other non-Hindu communities, such as the Moslems, Christians, and Jews. To gain an insight into these, or even, as in our case, into only a section of them – namely those practising polyandry – is a painstaking affair, especially when one realizes, as one very soon does, that the customs of a single ethnic group are by no means uniform in the whole state and often vary radically from north to south. 114 184

The climate, too, is a problem. Most of Kerala is damp and tropical all the year round, with a very wet period during the summer monsoon from June to October. The record density of the population makes for poor and inadequate quarters in which to live. Communications are bad, the rainy season disrupting traffic quite seriously with floods and high winds because of the physical nature of the land, which can be described as follows. [14] [132] [161] [484]

A. KERALA, A DESCRIPTION

1. ENVIRONMENT

The State of Kerala stretches, today, from the boundary of South Canara in Mysore State in the north, to Cape Comorin in the south, the latter being the most southerly point of the Indian continent. It is an extremely narrow belt of coastland, only five miles wide at some points and never exceeding seventy at its widest, which is at the Palghat gap. It is bordered on the west by the Arabian Sea of the Indian Ocean, in which are to be found the Laccadive islands, administratively part of the State, and on the east, by the imposing range of mountains called the Western [13] [133]

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3. THE PEOPLE

The new State is one of the most densely populated in the whole of India, as well as one in which the percentage of literacy is highest. Unfortunately no current statistics are available, as Kerala is of very recent creation, but some idea can be gained from the fact that in the Ponani taluk of the former district of Malabar, according to the Madras Government Statistical Atlas, 1935, there were 626,500 inhabitants, or 1,471 per square mile. The rate of increase of the population is also very rapid: about 11% every ten years. The percentage of education is highest in Travancore, Cochin. In 1951, 53.8% were reported literate (*Census of India*, Vol. xii).

The people of Kerala are a very complex collection and it would be hopeless to attempt to give a full and detailed description of them. The reader is referred to those works on the subject which have already been published, the titles of some of which can be found in the Bibliography. In order to understand, however, the extraordinary way in which Kerala society is partitioned into a number of individual groups, and how each of these has its own particular customs and ways, as for instance polyandry, it is essential to give a general idea of the different castes and subcastes which compose the population, with a brief outline of their social organization and professional occupations.

Rather naturally, as is to be expected from the mythological version of the origins of the country mentioned above, the summit of the hierarchy is occupied by the *Nambudri Brahmin*. As W. Logan very aptly puts it in his *Malabar* (Madras, 1887): "His person is holy; his directions command, his movements are a procession; his meals nectar; he is the holiest of human beings, the representative of God on earth." (p. 127). There are eight subdivisions to the caste, some more holy than others, by reason of the occupations which they pursue. Other Brahmins in Malabar, who have come from outside and are thus somewhat looked down upon, are the Pattars, Embrandiris, Tamil and Konkani Brahmins.

Below this exalted strata of Kerala society come the *Ambalavasis* or temple attendants, of whom there exist roughly nine subdivisions. With them are to be classed the self-styled *Kshattriyas* and the *Samantans*, from whose ranks are drawn the flower of the former military aristocracy. The Malayalam maharajas and rajas all belong to this class, as does the family of the Zamorin of Calicut.

In immediate succession are the *Nayars*, Sudras by caste, descendants of those easterners whom Parasu Raman brought in for the protection

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Tiyas

regulation. They said that they were starving and that they had had nothing to eat that morning. When I asked them how they would solve their problem, they replied that it was better that I "did not ask". Evil times had befallen them in their old age, and they really did not know what they could do about it; they might hire themselves out as labourers, if they were not so old and feeble. They agreed with me that the increase in population in Kerala over the years had made the difficulty of feeding so many people increasingly great.

Their two elder sons, called Ayapakuti and Pangha, lived polyandrously, I heard, some few miles away, on a bit of land which their fathers had given them fourteen years ago, in the fifth year of their marriage and after the birth of their fourth child. The common wife, Paru, was now alone with the thirty five year old second son, as the elder had died two years ago, also at the age of thirty five. It seemed that Kandapan had originally been part of the polyandrous household but that, tiring of living in this way, he had found a wife for himself, Lakshmi, with whom he had returned to the parental house to live, after the last renewal of the lease, four years ago.

With the old folk and Kandapan's family, was also Kunyu, a daughter, twenty five years old and divorced ten years ago. She had been married at the age of fourteen to Velahu, a man eighteen years her senior. She was childless and had not remarried. She lived in the larger house with her parents.

I took photographs of the family and a group picture of them can be seen in Fig. 10. I also made their genealogy, which is attached herewith in Table 6. I stayed on and discussed various problems with these people for part of the afternoon (having provided for them to have lunch in the meantime, which was most welcome to them in their starved condition). They told me that even if polyandry was now prohibited since the Act passed in 1940, it had been dying out for some years in any case. The legislation – of which they really had no idea at all – was only the confirmation and the consecration of a *de facto* state of affairs. Concerning the inheritance of girls in Tiya families, I may mention that, since the passing of the Act, property would have to be divided. Girls would also get their share which would be half that of the boys; they would pass it on to their own children and, since they were *makkathayam*, it would become merged with that of the latter's fathers. If there were no boys and only girls in the household, its property would cease to exist after the girls had been married off, for each of them would take her part away in accordance with the above.

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"Europeanism" further enhanced its influence in Malabar with the introduction of new industries and capitalistic enterprise. The coconut, cashew nut and coir industries employ thousands today and have created amongst the people an even greater dependence on the fluctuations of world prices than in the days of the pepper trade. Weaving, tile factories (such as the one founded by the Basel Mission), saw-mills, match factories and metal industries have given many people a new outlook on life which they could never have had in the old days, and has profoundly changed their traditional concepts. Prohibition introduced by the Congress Party Government, with its consequent forbidding of the ancient profession of toddy tapping, has thrown many Tiyas out of work, obliging them to seek their livelihood elsewhere, and modifying for this reason the traditional structure of their economy and family life.

Greater and better medical facilities, as well as a growth in industrial productivity, have brought about a correspondingly sharp rise in the population, so much so, indeed, that today Kerala ranks first in density to the square mile out of the whole of India. Agricultural prosperity has unfortunately not kept pace with this advance, making it often difficult for everyone to obtain food, especially when the monsoon fails, as it often does in the latter part of the year. Foodstuffs, especially grain, have thus to be imported from outside, and when this is not sufficient, many seek work in other parts of the world, leaving their families for years at a time, to emigrate and hire themselves out as labourers in Ceylon, Singapore, and the Malay Federation.

It is not surprising, under the circumstances, that the old order in Kerala has crumbled. Of the rajas and maharajas of old, none are any longer in positions of responsibility, those of Cochin and Travancore having also been made destitute by the recent re-arrangement of States in India. The Nambudri Brahmins are, perhaps, those who, because of their priestly character, continue more than anyone else, to lead the ancient, traditional life. Many of them, however, have gone in for the new enterprises, and if they do not always themselves own and direct them, they have invested funds in them. The younger members of the *illams* appear to be increasingly dissatisfied with their lot, and do not seem prepared to accept the old imperatives of occupation and succession. It may not, after all be just a coincidence that the Communist Party Government now in power in Kerala is headed by a Nambudri Brahmin.

The Nayar caste is no doubt the one that has been the hardest hit by the sweeping changes brought about by altered conditions. But its

6:Spate N-4 (no date)1954 AWl India
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Other Occupations

Fishing, both sea and freshwater, plays a big part in the life of Kerala but, as usual in India, is primitive in technique and organisation. It has, however, some interesting features: Portuguese influence is obvious in the so-called 'China nets' and the crossbow used for shooting fish from river-banks, [46] and there are many varieties of basket-work fish-traps. The catch of 'sardines' is largely used for manuring coconut; prawns are taken in flooded paddy-fields, the skins used as manure and the pulped flesh exported. Normally Burma was a good customer for prawns; the time of transport raised no difficulty as a high degree of putrescence was regarded with favour.

Travancore has a hydro-electric plant at Pallivasal on the Mudrapuzha River, with a capacity of 21,000 kW which can be increased to 36,000. The power is used for the industries of Cochin town and Ernakulam, of which the production of soap and cosmetics from copra is the most important. It also powers the sole Indian aluminium works, at Alwaye, formerly dependent on imported alumina but now increasingly supplied from Muri in Bihar (591 above); and a recent development is the use of electric pumps for 'de-watering' the *cole* lands. The great reservoir impounding the Periyar headwaters was built to supply irrigation water, by tunnel, to the Madras side, but may possibly be developed for power in the future.

Except for local clays and laterite, the only mineral deposits are the ilmenite, monazite, and zircon sands of the Travancore beaches from Quilon to Cape Comorin. These contain 8–10% thorium oxide and were exploited for the manufacture of gas mantles; the spread of electric lighting ruined this demand, but there has been a remarkable recovery. Titania from the ilmenite and cerium from the monazite are essential to some highly specialised electrical and chemical manufactures (electrodes, tracer bullets, and as a catalyst in benzine synthesis, amongst others) and recent developments in atomic research have made these deposits of great strategic significance. Production, which in 1925 fell to one hundred-weight of monazite, amounted in 1944 to 200,000 tons ilmenite, 2000 monazite, and 1600 zircon.

Population and Settlement

Population problems are very serious in Kerala; the density of Cochin in 1941 was the highest for any political unit in India—953 on a total area of 1493 sq mls—locally reaching 2000–4000 in a purely rural environment. Elankunnapuzha village had in 1941 no fewer than 18,173 people on its 3·8 sq mls—a density of 4782. The rate of increase has been very high—for

[46] A. K. Menon, "Fisheries of Cochin" (*IGJ* XIV (1939)), 229–36; C. D. Forde, *op. cit.*, 269.

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161 Malabar, Cochin, and Travancore respectively 14, 23, and 27% in 1921–31, 11, 18, and 19% in 1931–41. The decrease in rate seems to be associated with later marriage. Females outnumber males in Cochin (1042:1000) and in both Cochin and Travancore the proportion of unmarried females over 15 years old is several times greater than that of India as a whole—in 1941 Cochin had 172 per mille and Travancore 107 against an All-India rate of 36. In Cochin also the proportion of children under 10 had been stable in the last two Censuses.[47] The rate of increase, however, turned upwards again in 1941–51, which added to Travancore-Cochin 1,772,264 souls—an increase of 23·6% compared with an *Indian* average of 13·4. Population is now **9,280,425** with a density of **1015** on 9155 sq mls.

161 311 The situation is grave; on the 1931 figures Kuriyan calculated that taking a liberal view of the potentialities of 'culturable waste' only another 2,000,000 souls could be supported. Holdings are extremely small—96% under 10 ac., 87% under 5, 38% less than 1; and 5 ac. is regarded as the minimum for a family to live in reasonable comfort.[48] In Cochin the total area per person in 1941 was 0·67 of an acre, of cultivable land 0·36, of land actually cultivated 0·29; and the rice grown is sufficient to feed the people for only 7 out of 12 months.[49] During the war the Cochin and Travancore governments prided themselves, with some justice, on the efficiency of their procurement and rationing, but the ration was minimal even by Indian standards. As we have seen, agriculture is in many respects extremely intensive; yet in many areas there is a slack season from May through August, and this coincides with the slack season in sea-fishing owing to the stormy monsoon.

Diversification and expansion of agriculture are thus urgently necessary. But the density on cultivated area in the lowland is now at least 2250, and there is here very little land available for expansion on the most optimistic view imaginable. Various plans exist for irrigating perhaps 100,000 ac., mainly in the foothills; but these will not go very far, and it is difficult to see where the 15,000 ac. allotted to jute in 1950 can be fitted in. Even in the foothills there are well over **1000** persons to the cultivated square mile. Here, however, there is perhaps some room for diversification by expansion—perhaps of poorer crops on the poorer soils. Gram, soya, and other pulses, fodder crops, and buckwheat are suggested by Kuriyan, together with more tapioca and fruit. Other occupations may play an ancillary role in relieving pressure, but their scope is limited.

361 As for settlement patterns, the extreme density of population (as in Bengal) produces a close stipple of habitations; there are no grouped villages (other than mere thickening of homesteads) except in the tran-

[47] 1941 Census, Vol. XIX (Cochin), 18–24; the discussion is largely based on Cochin figures since this, by exception in 1941, is an excellent report.
[48] *Ibid.*, 31; Kuriyan (1938), 140, where 8–10 ac. is given as the 'economic' holding.
[49] 1941 Census, Vol. XIX, 31.